

# Health

## Oral Minoxidil for Hair Loss: What to Know About Off-Label Use of the Drug

Normally used as a topical treatment, some dermatologists say the oral formulation may be a better, cheaper option.

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Fact checked by [Marley Hall](#)



Minoxidil—a drug normally used topically to treat hair loss—is beginning to gain traction as an oral medicine for the same reason. Some dermatologists even say that the drug in its oral form regrows hair better (and for less money) than how it's commonly used.

The news comes from a recent article from *The New York Times*, highlighting the use of low-dose oral minoxidil pills—a relatively unknown hair loss treatment by both patients and doctors.

Prescribing medication in this way is what's known as off-label use. Though minoxidil is approved by the U.S. Food and Drug Administration (FDA) to treat hair loss in topical form (it's the active ingredient in Rogaine), it has not been approved for oral use for hair loss. The drug is, however, FDA-approved as an oral treatment for high blood pressure, in higher doses.

"I tell people most things we do [as dermatologists] are off-label because there is nothing on-label," Robert Swerlick, MD, professor and chair of the dermatology department at Emory University School of Medicine, told *The Times*, citing off-label treatments commonly used for other skin disorders.

Here's what to know about using minoxidil orally for hair loss—and how to bring it up to your dermatologist.

## Current FDA-Approved Treatments for Hair Loss

There are really only two treatments that are FDA-approved for androgenetic alopecia—commonly known as female- or male-pattern hair loss: minoxidil and finasteride.

### Minoxidil (topical)

This treatment is found in products like Rogaine and many other hair loss replacement foams, creams, and shampoos.

Minoxidil is a vasodilator, or a medication that opens blood vessels. It's for this reason, in oral form, that it was first introduced to treat high blood pressure. But the drug had an unexpected side effect: It increased hair growth—which led to its topical formulation and FDA approval.

It's not entirely known how topical minoxidil works, but according to Cindy Wassef, MD, a dermatologist at Robert Wood Johnson University Hospital, it's thought to increase blood flow to hair follicles, making them stronger and allowing them to grow.

Research has shown that minoxidil—mainly in concentrations of 5%—was most effective in both men and women in not only regrowing hair loss, but also improving psychological perceptions of hair loss.

### Finasteride (oral)

This medication, which is sold under the brand name Propecia, is FDA approved to treat hair loss specifically in men with androgenetic alopecia.

Propecia is taken as one, 1-milligram tablet, once a day. Results typically show up after three months of treatment.

The medication, though effective, does come with side effects like decreased libido, erectile dysfunction, and ejaculation disorder. Propecia should also not be handled or come into contact with people who are, or who may become pregnant, due to risks associated with fetal development.

### Other Treatments

Though not technically FDA-approved for hair loss, platelet-rich plasma (PRP) injections—in which a patient's own blood is taken, platelets are filtered out, then injected back into the body—may also be helpful for androgenetic alopecia, according to **Gary Goldenberg, MD**, board-certified dermatologist and founder of Goldenberg Dermatology.

Hair transplants, though costly, are also used to restore hair. A hair transplant involves removing small pieces of scalp still able to grow hair, and transplanting them onto balding or thinning areas of the scalp.

## Oral Minoxidil Use for Hair Loss

Using low-dose oral minoxidil for hair loss comes from the side effects of the high-dose version of the drug, used to treat high blood pressure.

In clinical trials for Loniten (oral minoxidil for blood pressure), about 80% of patients experienced hypertrichosis, or "elongation, thickening, and enhanced pigmentation of body hair." The hair growth typically developed three to six weeks after beginning treatment.

The hair growth, however, was not permanent: within one to six months after stopping treatment, the hair growth stopped and patients' appearances were restored to what they looked like before treatment.

In using low-dose minoxidil pills specifically for hair loss, that discovery was made by Rodney Sinclair, MD, a professor of dermatology at the University of Melbourne, who published a pilot study on the topic in 2017.

According to Dr. Sinclair, who spoke with *The Times*, one of his female patients experienced a rash on her scalp after using Rogaine. He ended up giving her very low doses of minoxidil orally—eventually determining that one-fortieth of a pill was the correct dosage—to encourage hair growth, but not affect blood pressure. That same patient, Dr. Sinclair said, continues to take the medication today.

And it's not just Dr. Sinclair who is prescribing oral minoxidil for hair loss.

"It is just starting to see a surge in popularity," Crystal Aguh, MD, an associate professor of dermatology at Johns Hopkins School of Medicine, told *The Times*. "More and more at conferences, we are sharing our success stories."

"Very low dose oral minoxidil is emerging as a popular treatment for hair thinning," Joshua Zeichner, M.D., director of cosmetic and clinical research in dermatology at Mount Sinai Hospital, told *Health*. But, he added, "I personally prescribe other topical and oral therapies first."

It also may not be the only thing to try if you're trying to combat hair loss. "I always use this medication in conjunction with other treatments," Dr. Goldenberg says.

## Potential Risks Associated With Oral Minoxidil

Because oral minoxidil helps with hair growth, it may lead to hair growth everywhere. "Oral minoxidil at low doses can cause hair growth in other places than just your head—think face and other areas of the body," Dr. Wassef said. "It can also cause some leg swelling."

While the medication can be used to combat high blood pressure, it generally doesn't alter blood pressure in lower doses like the ones used for hair growth, according to Dr. Wassef.

However, "if a patient has any heart problems or is on multiple other blood pressure medications," said Dr. Wassef, "I always speak with their primary care to be sure this is an appropriate treatment for them."

Oral minoxidil is also not a permanent fix—it stops working for hair loss when you stop taking it. "The effects of oral minoxidil last only as long as you are on the medication," Dr. Zeichner said. "Stopping treatment means that you will likely lose any hair you have grown from the treatment."

Oral minoxidil is also not recommended for people with an allergy to the medication and people with a rare type of neuroendocrine tumor known as a pheochromocytoma, Dr. Wassef said.

## Asking Your Healthcare Provider About Oral Minoxidil

If you're interested in trying oral minoxidil, talk to your dermatologist. They should be able to help counsel you on the medication and may recommend other treatments that can also help.

But, be warned that it won't work for everyone. "Once your hair loss has been chronic—meaning, shiny, smooth areas of absolutely no hair—oral minoxidil and other oral and topical treatments are less likely to work."

Dr. Goldenberg agrees. "The effect is less noticeable for those who have lost all or most of their hair," he said.

Ideally, "you would want to see your dermatologist when you first notice the hair loss," said Dr. Wassef, "and when the hair loss is just starting to be noticeable to others."